IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Shannon V. Davidson, et al.
Serial No.:	10/825,345
Filing Date:	April 15, 2004
Art Unit:	2451
Confirmation No.:	8660
Examiner:	Saket K. Daftuar
Title:	***System and Method for Computer Cluster Virtualization Using Dynamic Boot Images and Virtual Disk***

Mail Stop: AF
Commissioner For Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

Pre-Appeal Brief Request for Review

This Pre-Appeal Brief Request for Review and the accompanying Notice of Appeal are submitted pursuant to provisions set forth in the Official Gazette Notice of July 12, 2005. Applicants respectfully request reconsideration and allowance of the rejected claims.

Remarks

Claims 1-45 stand rejected pursuant to a Final Office Action mailed March 19, 2010. The Examiner rejects Claims 1-45 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 7,231,430 to Brownell et al. ("*Brownell*"), U.S. Patent 6,597,956 to Aziz et al. ("*Aziz*"), and U.S. Patent 7,055,148 to Marsh et al. ("*Marsh*"). Applicants respectfully submit that these rejections are legally and/or factually deficient and should be reversed.

Independent Claim 1, which Applicants discuss as an example, recites the following:

> A method comprising:
> selecting a distributed application;
> retrieving a policy associated with the distributed application;
> dynamically selecting one of a plurality of nodes;
> resetting a boot image of the selected node based at least in part on the retrieved policy, the boot image being compatible with the distributed application;
> associating a virtual disk image with the selected node based at least in part on the retrieved policy; and
> executing at least a portion of the distributed application on the selected node, as reset, using the virtual disk image associated with the selected node, the execution performed by at least one processor of the selected node.

Respectfully, the Examiner has not demonstrated a *prima facie* case of obviousness for at least two reasons. First, the proposed *Brownell-Aziz-Marsh* combination fails to disclose, teach, or suggest each and every limitation recited in Claim 1. Second, the proposed *Brownell-Aziz-Marsh* combination is improper.

I. The Proposed *Brownell-Aziz-Marsh* Combination Fails to Disclose, Teach, or Suggest All Limitations of Claim 1

For example, the proposed combination fails to disclose, teach, or suggest "resetting a boot image of the selected node based at least in part on the retrieved policy" that is "associated with the distributed application," as recited in Claim 1. The Examiner relies on *Aziz* for the "retrieved policy" recited in Claim 1. *Final Office Action* (*FOA*) at 10. The cited portion of *Aziz* merely discloses a policy-based rule for adding a Web server to a virtual server farm (VSF) and enforcing firewalling between VSFs according to policy rules. *Aziz* at 11:7-15; 21:9-17. Even assuming for the sake of argument that the policy-based rule or the policy rules in *Aziz* could be considered a "policy," as Claim 1 recites, *Aziz* would still fail to disclose, teach, or suggest the policy-based rule or the policy rules in *Aziz* being in any way "**associated with the distributed application**," as Claim 1 recites.

The cited portions of *Brownell* and *Marsh* fail to cure this deficiency of *Aziz*. Notably, the Examiner admits that "*Brownell* is silent about the policy associated with the distributed application." *FOA* at 9. In addition, even assuming for the sake of argument that applying *Marsh*'s firmware patch could be considered "resetting a boot image" (which Applicants do not admit), *Marsh* would still not disclose, teach, or suggest a policy that is "associated with the distributed application," as Claim 1 recites. Thus, the proposed *Brownell-Aziz-Marsh* combination fails to disclose, teach, or suggest "resetting a boot image of the selected node based at least in part on the retrieved policy" that is "associated with the distributed application" as recited in Claim 1. Accordingly, the proposed *Brownell-Aziz-Marsh* combination fails to support the rejection of Claim 1.

As another example, the proposed *Brownell-Aziz-Marsh* combination fails to disclose, teach, or suggest "associating a virtual disk image with the selected node based at least in part on the retrieved policy," as recited in Claim 1. The Examiner relies on *Brownell* for this aspect of Claim 1. *FOA* at 8. However, the cited portion of *Brownell* merely discloses a hardware platform that includes processing nodes connected to a switching fabric via a high-speed interconnect. *Brownell* at 2:56-67. Each processing node is a board that includes processors, network interface cards, and local memory that includes some BIOS firmware for

booting and initialization. *Brownell* at 3:13-17. Control nodes connected to the switch fabric are each a single board that includes processors, local memory and local disk storage for holding independent copies of the boot image and initial file system that is used to boot OS software for the processing and control nodes. *Brownell* at 3:21-26. Even assuming for the sake of argument that the independent copies of the boot image and initial file system in *Brownell* could be considered a "boot image of the selected node" (which Applicants do not admit), *Brownell* would still fail to disclose, teach, or suggest "dynamically selecting one of a plurality of nodes" and "associating a virtual disk image with the selected node" as recited in Claim 1. *Aziz* and *Marsh* fail to cure this deficiency of *Brownell*. Accordingly, the proposed *Brownell-Aziz-Marsh* combination fails to support the rejection of Claim 1.

II. The Proposed *Brownell-Aziz-Marsh* Combination is Improper

First, the combination is improper because the proposed modification in view of *Marsh* would render *Brownell* and *Aziz* unsatisfactory for their intended purposes.[1] An intended purpose of *Brownell* is to provide a control node that assists in deploying virtualized processing area networks. *Brownell* at 3:4-8. To achieve this purpose, *Brownell* permits communication from the control node but restricts communication between processing nodes. *Brownell* at 4:51-55. Specifically, "management logic and the control node logic are responsible for establishing, managing and destroying communication paths. The individual processing nodes are **not permitted** to establish such paths." *Id.* (emphasis added).[2] Thus, *Brownell* explicitly restricts processing nodes from establishing communication paths.

In contrast, the cited portion of *Marsh* discloses a "ring configuration" of network nodes and emphasizes that the ring configuration provides bi-directional communication between the network nodes, which permits a firmware patch to be distributed to networked computer systems. *Marsh* at 8:35–9:23 and Fig. 5. The Examiner seems to propose modifying *Brownell* to permit distribution of the firmware patch between network nodes, as described in *Marsh*. *FOA* at 5, 9. However, modifying the processing nodes in *Brownell* to distribute a firmware patch among one another would render *Brownell* unsatisfactory for its

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[1] "If [the] proposed modification would render the prior art invention being modified **unsatisfactory for its intended purpose**, then there is **no suggestion or motivation to make the proposed modification**." M.P.E.P. § 2143.01 (emphasis added); *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416, 127 S.Ct. 1727, 1740 (when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious). "A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead way from the claimed invention." M.P.E.P. § 2141.02(VI).

[2] *Brownell* further states that "by having communication paths managed and created centrally (**instead of via the processing nodes**) such a **path is not creatable by the processing nodes**, and the defined subnet connectivity cannot be violated by a processor." *Brownell* at 5:39-45.

intended purpose, as it would require establishing communication paths between *Brownell's* processing nodes, defeating *Brownell's* purpose of restricting communication paths between processing nodes. *Brownell* at 4:51-55.

Similarly, modifying *Aziz* in view of *Marsh* would render *Aziz* unsatisfactory for its intended purpose. *Aziz* discloses a computing grid comprising virtual server farms (VSFs) and expressly restricts communication between VSFs, stating that "VSFs in a computing grid **must not be allowed** to communicate with each other to prevent one VSF from in any way causing a change in the configuration of another VSF." *Aziz* at 19:45–21:17 (emphasis added). Modifying *Aziz* to permit the distribution of a firmware patch between network nodes, as described in *Marsh*, would render *Aziz* unsatisfactory for its intended purpose, as it would allow VSFs to communicate with each other to distribute the firmware patch, defeating *Aziz's* purpose of preventing communication between VSFs. *Id.*

Thus, the proposed modifications in view of *Marsh* would render *Brownell* and *Aziz* unsatisfactory for their intended purposes. Consequently, the proposed combination and resulting rejections are improper.[3]

Second, the combination is improper because the proposed modifications in view of *Marsh* would impermissibly change the principle of operation of *Brownell* and *Aziz*.[4] For example, modifying the processing nodes in *Brownell* to distribute a firmware patch among one another (per *Marsh*) would require establishing communication paths between those processing nodes, destroying the principle of operation in *Brownell* of restricting communication paths between processing nodes. *Brownell* at 4:51-55. As another example, modifying *Aziz* to permit distribution of a firmware patch between network nodes (per *Marsh*) would allow the VSFs to communicate with each other to distribute the firmware patch, destroying the principle of operation in *Aziz* of preventing communication between VSFs. *Aziz* at 19:45–21:17. Because the proposed modification in view of *Marsh* would destroy the principle of operation of both *Brownell* and *Aziz*, the proposed combination and resulting rejections are improper.

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[3] The Examiner states that the above arguments are "not persuasive as the arguments presented by applicant's are directed to [a] different analysis that are clearly different than what the examiner has issued in [the] previous office action." *FOA* at 2. The Examiner's response to Applicants' arguments does not appear to respond to the substance of Applicants' arguments. Applicants have demonstrated above that modifying each of *Brownell* and *Aziz* with *Marsh* would render both *Brownell* and *Aziz* unsatisfactory for their intended purposes, which is not permissible according to controlling authority.

[4] "If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." M.P.E.P. § 2143.01.

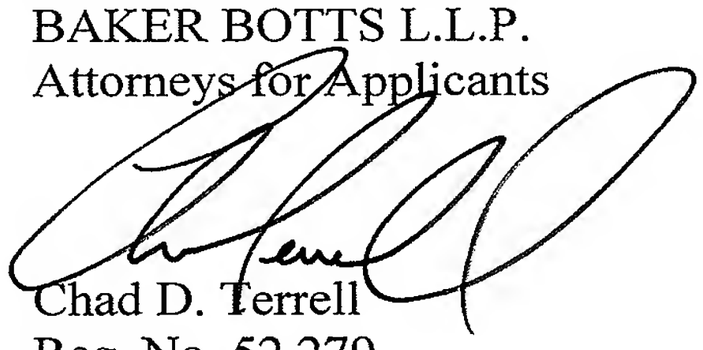
Third, the combination is improper because it results from improper hindsight reconstruction of Claim 1.[5] In attempting to locate the limitations of Claim 1 in the alleged prior art, the Examiner has cited disjointed portions of three different references. For example, the claimed "selected distributed application" allegedly is found in *Brownell*, the claimed "policy associated with the distributed application" allegedly is found in *Aziz*, and the claimed resetting of the boot image (which, as claimed, is "based at least in part on the retrieved policy," allegedly found in *Aziz*) allegedly comes from *Marsh*. Yet, the Examiner provides no reason other than a conclusory assertion for piecing together these disjointed alleged teachings of the three references in attempting to reconstruct Claim 1. Applicants submit that the Examiner's attempt to combine *Brownell*, *Aziz*, and *Marsh* constitutes a classic case of impermissible hindsight reconstruction of Applicants' claims, using Applicants' claims as a blueprint, that is specifically prohibited by the M.P.E.P. and governing Federal Circuit cases, as can be seen by the disjointed mapping of the references' alleged teachings to the limitations of Claim 1.

III. Conclusion

For at least these reasons, the Examiner's rejections of independent Claim 1 and its dependent claims contain clear legal and factual deficiencies. For at least certain analogous reasons, the Examiner's rejections of independent Claims 16 and 31 and their dependent claims contain clear legal and factual deficiencies. Thus, for at least these reasons, Applicants request allowance of all pending claims.

Although no fees are believed due (other than the fee indicated on the accompanying Notice of Appeal), the Commissioner is hereby authorized to charge any necessary fees and credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,
BAKER BOTTS L.L.P.
Attorneys for Applicants



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[5] "Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418, 127 S. Ct. 1727, 1741, 82 U.S.P.Q.2d 1385, 1396 (2007) (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).